

Abstract of the Disclosure

An apparatus for detecting a direction of a target is provided. The apparatus transmits and receives radio waves through a plurality of transmission/reception channels causing a phase difference in signals to be received through the transmission/reception channels and calculates the direction based on the phase difference. The apparatus comprises a direction calculating device, range determining device, and direction correcting device. The direction calculating device calculates the direction of the target based on the phase difference in the received signals on the assumption that the phase difference is within a range of $-\pi$ to $+\pi$ [rad]. The range determining device determines that the target exists in any of azimuthal angle ranges each corresponding to ranges defined by $(2m-1)\pi$ to $(2m+1)\pi$ [rad] (m is an integer). The direction correcting device corrects the direction according to a range-determined result.